

REMARKS

Summary of the Office Action

Claims 1 and 8-10 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Wook (US 5,894,136).

Claims 2, 3, and 5-7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wook in view of Shin (US 5,828,433).

Summary of the Response to the Office Action

Applicants amend claims 1-3 to further define the invention. Accordingly, claims 1-3 and 5-28 are pending with claims 11-28 being withdrawn from consideration.

All Claims Define Allowable Subject Matter

Claims 1 and 8-10 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Wook (US 5,894,136), and claims 2, 3, and 5-7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wook in view of Shin (US 5,828,433). Applicants respectfully traverse these rejections as being based upon references that neither teach nor suggest the novel combination of features recites in amended independent claim 1, and hence dependent claims 2, 3 and 5-10.

Independent claim 1, as amended, recites an array substrate for a liquid crystal display device including “a passivation layer between the first data line and the second data line.”

In contrast to Applicants’ claimed invention, Wook teaches a chromium data line 9 formed to continuously overlies an n-type amorphous silicon layer 8. Accordingly, the Office Action admits that “Wook shows all of the elements of the claims except the passivation layer between the first and second data line.” Then, the Office Action reasons that:

“[a]lthough Shin does not specifically disclose a first and second data line, the components of Shin can be applied to the first and second data lines of Wook because Shin discloses (1) that in the well known prior art devices, source electrodes conduct a data signal (col. 1, line 67-col. 2, line 4); that (2) ITO pattern (6A) is provided on the source pad 2A which is part of the data electrodes of the LCD (col. 4, lines 23-24), and that (3) Wook discloses (col. 2, lines 9-19) that the data line and source electrode are integrally formed.”

Thus, the Office Action concludes that it would have been obvious to “modify the first and second data lines of Wook by forming a passivation layer between them and a contact hole to connect the first and second data lines as taught by Shin to isolate the layers and prevent shorts.” Applicants respectfully disagree.

First, Applicants respectfully assert that the logical reasoning set forth in the Office Action is neither taught, suggested, nor implied by any of the prior art of record, let alone by Shin and/or Wook. For example, Applicants respectfully assert that neither Shin nor Wook teach anything that would lead one of ordinary skill in the art to “modify the first and second data lines of Wook by forming a passivation layer between them and a contact hole to connect the first and second data lines as taught by Shin to isolate the layers and prevent shorts,” as alleged by the Office Action. Specifically, Applicants respectfully assert that Shin provides no motivation to modify Wook. Accordingly, Applicants respectfully assert that the Office Action fails to establish a *prima facie* case of obviousness with regard to amended independent claim 1, and hence dependent claims 2-10.

Second, Applicants respectfully assert that the logical reasoning set forth in the Office Action fails to remedy the teaching deficiencies of Shin. Specifically, Applicants respectfully assert that since none of the prior art of record, especially Shin, teach or suggest forming first and second data lines having a passivation layer therebetween, then the Office Action fails to

establish a *prima facie* case of obviousness with regard to amended independent claim 1, and hence dependent claims 2-10.

Third, Applicants respectfully assert that Wook explicitly requires formation of the chromium data line 9 directly onto the amorphous silicon layer 8 in order to compensate for bending of the glass substrate 1. Accordingly, Applicants respectfully assert that modifying Wook according to the reasoning set forth by the Office Action would change the principle of operation of Wook, thereby rendering the process and device disclosed by Wook unsatisfactory for its intended purpose. For example, Wook explicitly requires formation of the chromium data line 9 directly onto the amorphous silicon layer 8 in order to compensate for bending of the glass substrate 1. Accordingly, Applicants respectfully assert that modifying Wook with the reasoning set forth by the Office Action would prevent for the compensation of the bending of the glass substrate of Wook by introducing an additional insulating layer between the chromium data line 9 and the amorphous silicon layer 8 of Wook. Thus, the glass substrate disclosed by Wook would not receive any counter-bending moment to offset the bending due to the amorphous silicon layer since the chromium data line would not sufficiently contact the amorphous silicon layer. Therefore, the data line would become segmented, i.e., pulled apart into pieces, due to the tensile stress imparted by the glass substrate.

As MPEP 2143.01 instructs, “[I]f proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).” Furthermore, MPEP 2143.01 instructs, “[i]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima

facie obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959).” Accordingly, because modifying Wook with the reasoning set forth by the Office Action would fail to provide compensation for the bending of the glass substrate, which would render the process and device of Wook inoperable and unsatisfactory for its intended purpose, Applicants respectfully assert that the Office Action has not established any proper motivation to modify Wook, and thus not established a *prima facie* case of obviousness.

Applicants further assert that the Office Action does not rely on any specific teachings of Shin with which to support the allegation that Wook and Shin teach or suggest “a passivation layer between the first data line and the second data line,” as required by amended independent claim 1, and hence dependent claims 2-10.

For the above reasons, Applicants respectfully assert that the rejections under 35 U.S.C. § 102(b) and 103(a) should be withdrawn because none of the applied prior art references, whether taken individually or in combination, teach or suggest the novel combination of features clearly recited in amended independent claims 10 and 14, and hence dependent claims 11-13 and 15-17, respectively.

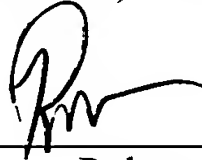
CONCLUSION

In view of the foregoing, Applicants respectfully request reconsideration and timely allowance of the pending claims. Should the Examiner believe that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicants’ undersigned representative to expedite prosecution.

If there are any other fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-0310. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

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